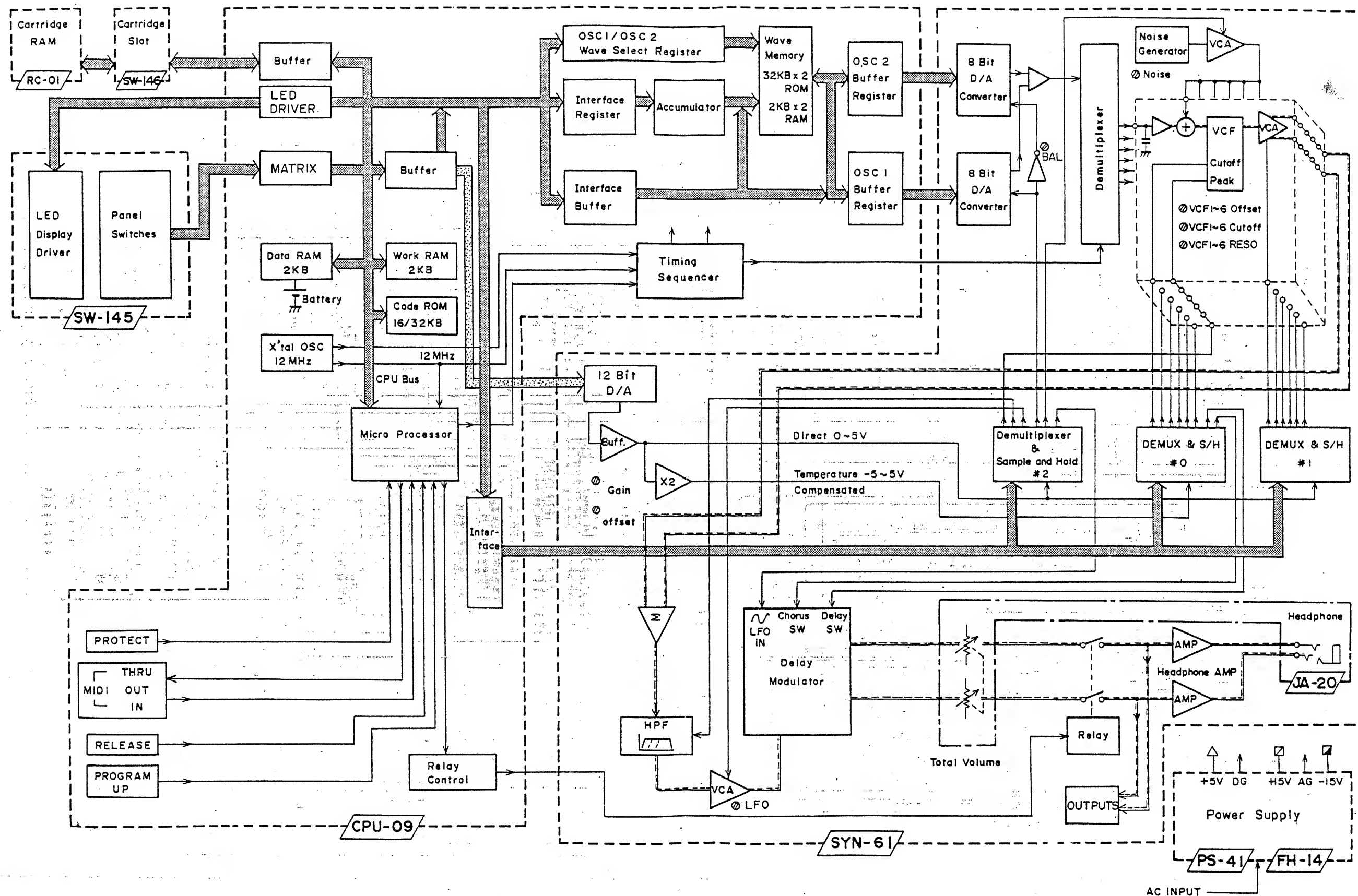
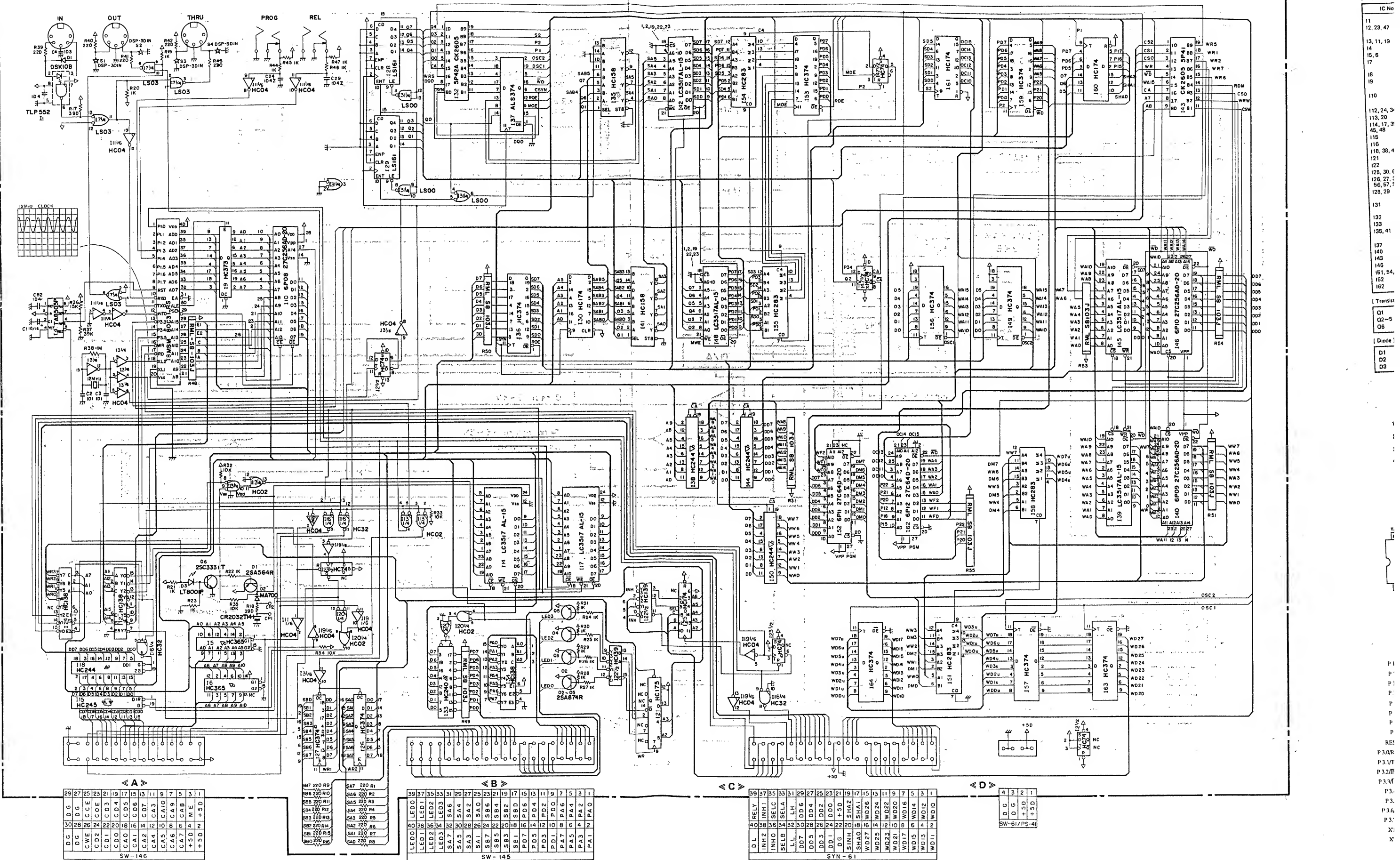


#### 4. BLOCK DIAGRAM

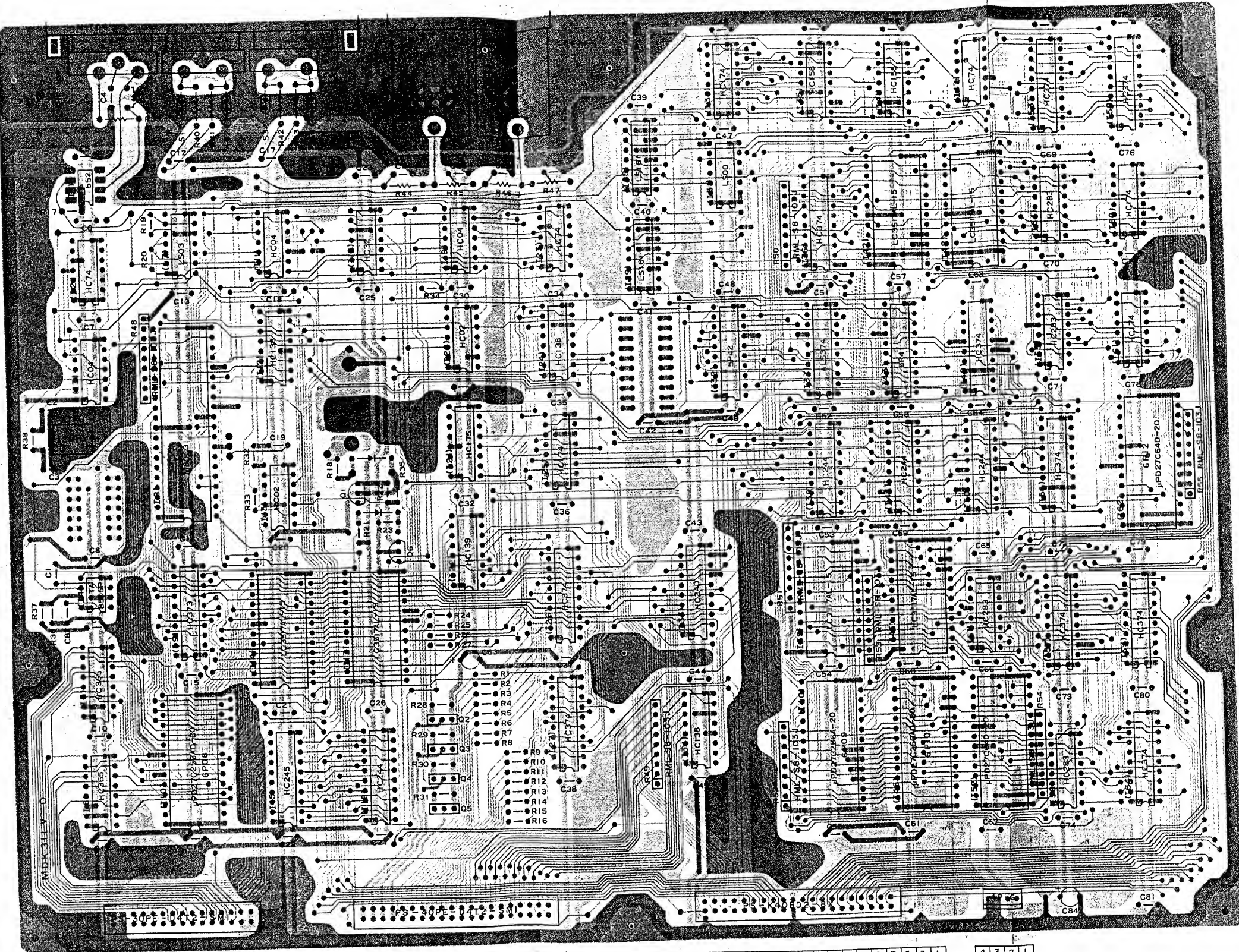
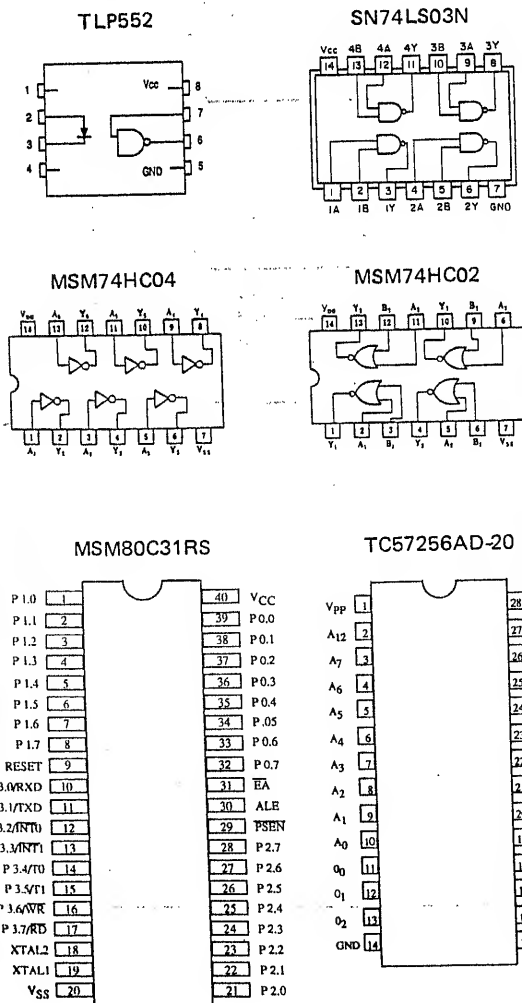




6. [CPU-09] PRINTED CIRCUIT BOARD

IC No.	Name	Code No.	Abstract
11	TLP552	802361	Photo Coupler
12, 23, 47	MSM74HC74	802834	Dual D-Type Flip-Flop with Preset and Clear
13, 11, 19	MSM74HC04	802832	Hex. Inverter
14	TAS505P	802937	Supply Voltage Supervisor
15, 6	MSM74HC365	802936	Hex. 3-State Bus Buffer (Inverting)
17	SN74LS03N	706951	Quadruple 2-Input Positive NAND Gates
18	80C31	802824	CPU
19	MSM74HC373	802842	Octal D-Type Latch with 3-State Output (Non-Inverting)
110	6P08EPROM27C256-20	909375	32768x8 UV Erasable and Electrically Programmable ROM
112, 24, 34	MSM74HC138	802932	3-To-8 Line Decoder
113, 20	MSM74HC02	802931	Quad 2-Input NOR Gate
114, 17, 39, 42, 45, 48	LC3617AL-15	802938	2K x 8 Static RAM
115	MSM74HC245	802935	Octal 3-State Bus Transceiver
116	MSM74HC32	802833	Quad 2-Input OR Gate
118, 38, 44, 50	MSM74HC244	802838	Octal 3-State Bus Buffer
121	MSM74HC175	802933	Quad D-Type Flip-Flop with Clear
122	MSM74HC139	802835	Dual 2-To-4 Line Decoder
125, 30, 60, 81	MSM74HC174	802837	Hex. D-Type Flip-Flop
126, 27, 36, 49, 53, 56, 57, 59, 63, 64	MSM74HC374	802843	Octal D-Type Flip-Flop with 3-State
128, 29	74LS161	800756	Synchronous 4-Bit Counters Binary
131	74LS00	800720	Quadruple 2-Input Positive NAND Gates
132	5P42A IFL CK2605	907531	Programmable Fuse Logic
133	MSM74HC240	802934	Inverting Octal 3-State Bus Buffer
135, 41	MSM74HC158	802836	Quad 2-Channel Multiplexer (Inverting)
137	74ALS374	802363	Octal D-Type Flip-Flop
140	6P09EPROM27C256-20	909380	
143	5P41IFL CK2605	907525	
146	6P10EPROM27C256-20	909385	
151, 54, 55, 58	MSM74HC283	802840	4-Bit Binary Full Adder
152	6P11EPROM27C64-20	909390	8K x 8 EP ROM
162	6P12EPROM27C64-20	909395	

[ Transistor ]		
Q1	2SA664R	708102
Q2~5	2SA874R	802362
Q6	2SC3311T	902508
[ Diode ]		
D1	OSK-10B	802898
D2	MA-700	802364
D3	LT8001P	802840



29	DG	27	DG	25	CCE	23	CD3	21	CD4	19	CD5	17	CD6	15	CD7	13	CA3	11	CA10	9	CA9	7	CA8	5	CA7	3	CA6	1	CA5	0
30	DG	28	CWE	26	CD2	24	CD1	22	CD0	20	CA0	18	CA1	16	CA2	14	CA4	12	CA11	10	CA10	8	CA9	6	CA8	4	CA7	2	CA6	0

SW-146

39	LED0	37	LED1	35	LED2	33	LED3	31	SA6	29	SA4	27	SA2	25	SA0	23	SB6	21	SB4	19	SB2	17	SB0	15	PD6	13	PD4	11	PD2	9	PD0	7	PA6	5	PA4	3	PA2	1	PA0
40	LED0	38	LED1	36	LED2	34	LED3	32	SA7	30	SA5	28	SA3	26	SA1	24	SB7	22	SB5	20	SB3	18	SB1	16	PD7	14	PD5	12	PD3	10	PD1	8	PA7	6	PA5	4	PA3	2	PA1

SW-145

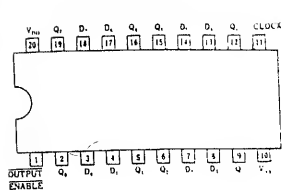
39	REL	37	INH1	35	SEL	33	SEL	31	SEL	29	DD6	27	DD4	25	DD2	23	DD0	21	SH2	19	SH0	17	SH2	15	WD24	13	WD22	11	WD20	9	WD18	7	WD16	5	WD14	3	WD12	1	WD10
40	REL	38	INH1	36	SEL	34	SEL	32	SEL	30	DD7	28	DD5	26	DD3	24	DD1	22	SH1	20	SH0	18	SH2	16	WD25	14	WD23	12	WD21	10	WD19	8	WD17	6	WD15	4	WD13	2	WD11

SW-61

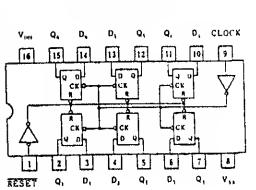
4	3	2	1
D	G	D	G
+5.0	+5.0	+5.0	+5.0

SW-61/PS-4

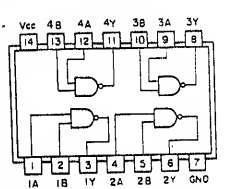
MSM74HC374



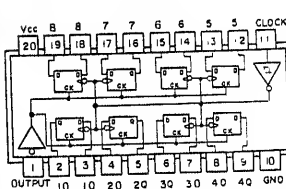
MSM74HC174



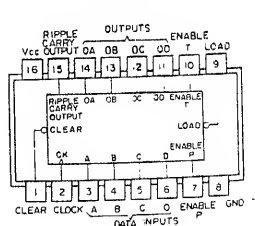
74LS00



74ALS374



74LS161



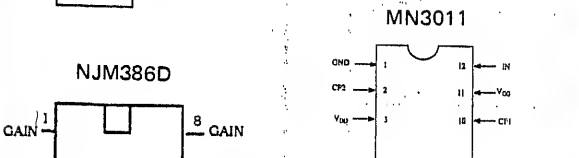
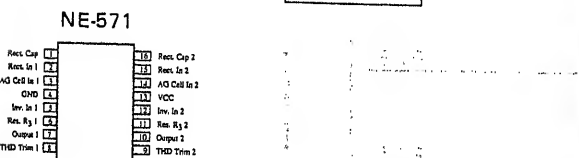
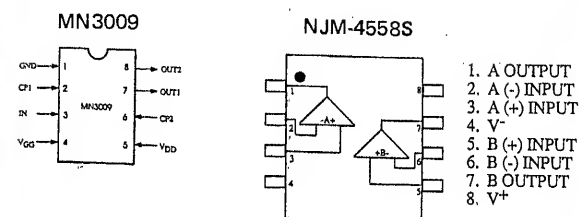
[illegible]

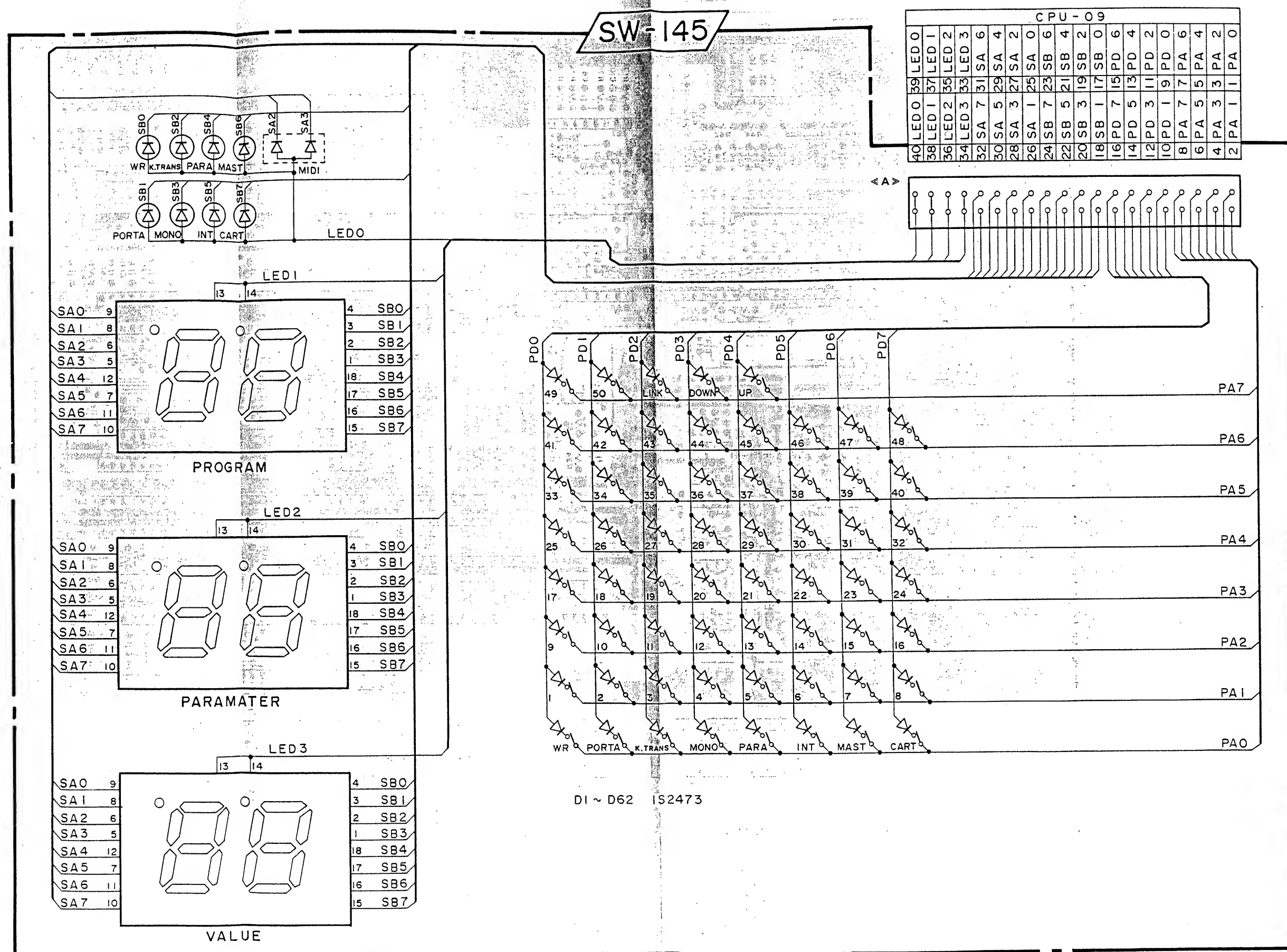
# 8. [SYN-61] PRINTED CIRCUIT BOARD

IC No.	Name	Code No.	Abstract
11	MSM74HC374	802843	Detail D-Type Flip-Flop with 3-State
12	MSM74HC174	802837	Hex. D-Type Flip-Flop
13-16	MB84011B	706984	Single 8-Channel Multiplexer/Demultiplexer
17-18	MSM74HC174	706982	Quad 2-Input Positive NAND Gate
19-20	TD62901P	802357	8-Bit D/A Converter
111-116	SSMT2044	800056	4-Pole Voltage Controlled Filter
117	MN6631A	802360	5-Channel CMOS Electronic Switch
118	MN3009	706071	BBD
119	MN3011	802359	BBD
120, 21	NJM-386D	707005	Audio Power Amplifier
122, 23, 24	NJM-082S	800744	QP Amplifier
125-136	NJM-4558S	802929	QP Amplifier
137-144	TA75064P	802939	Quad QP-Amp
145, 46	NE-571	800062	Compass
147-149	BA6110	706937	QP Amplifier

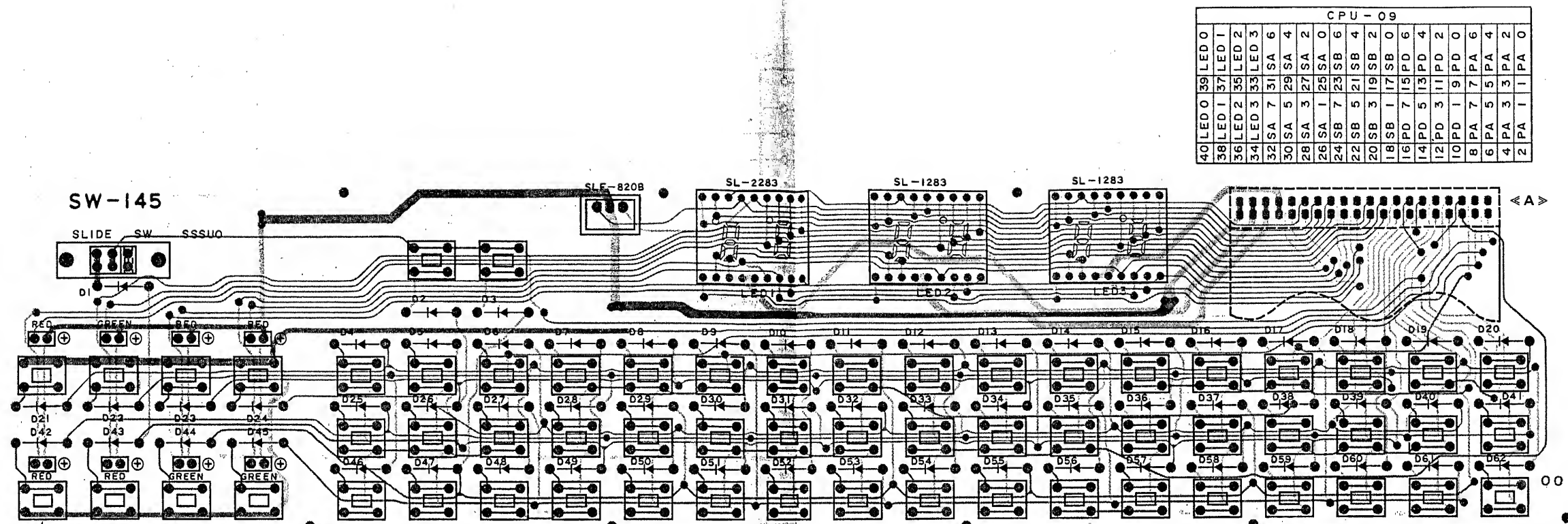
Transistor	Code No.	Abstract
Q1-5	2SA564R	706102
Q6-11	2SA798P	706124
Q12, 13	2SC331T	802608
Q14	2SK304	

Diode	Code No.	Abstract
Q1-25	1SS133	800625



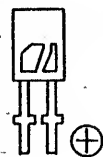


10. [SW-145] PRINTED CIRCUIT BOARD



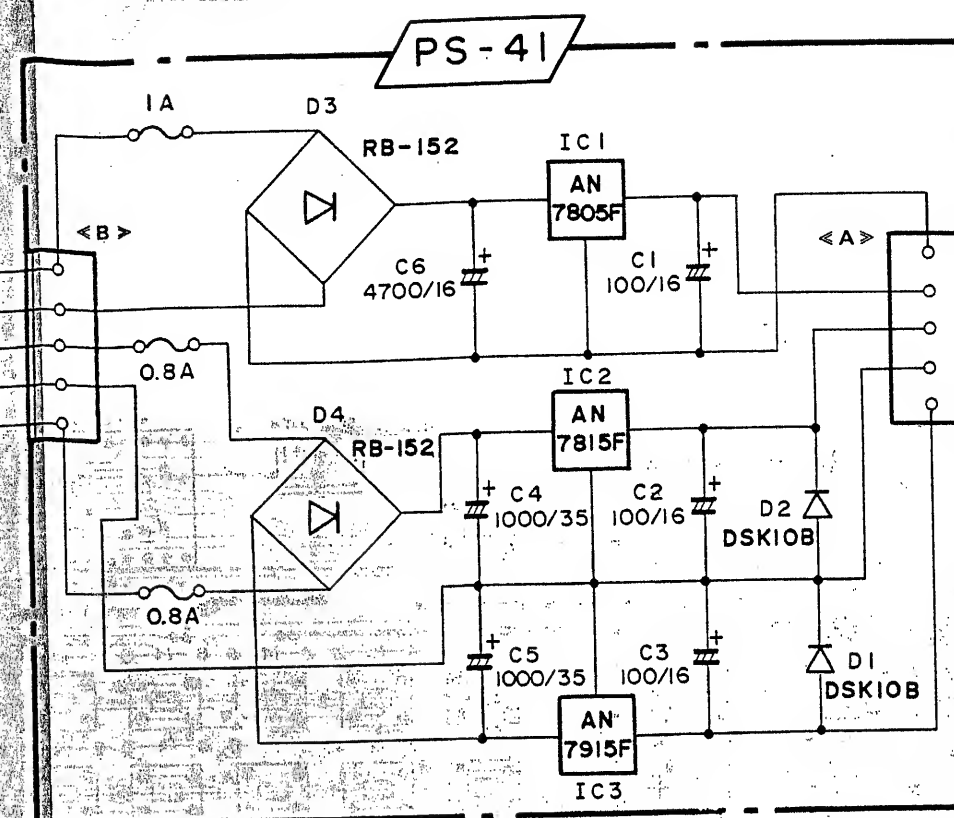
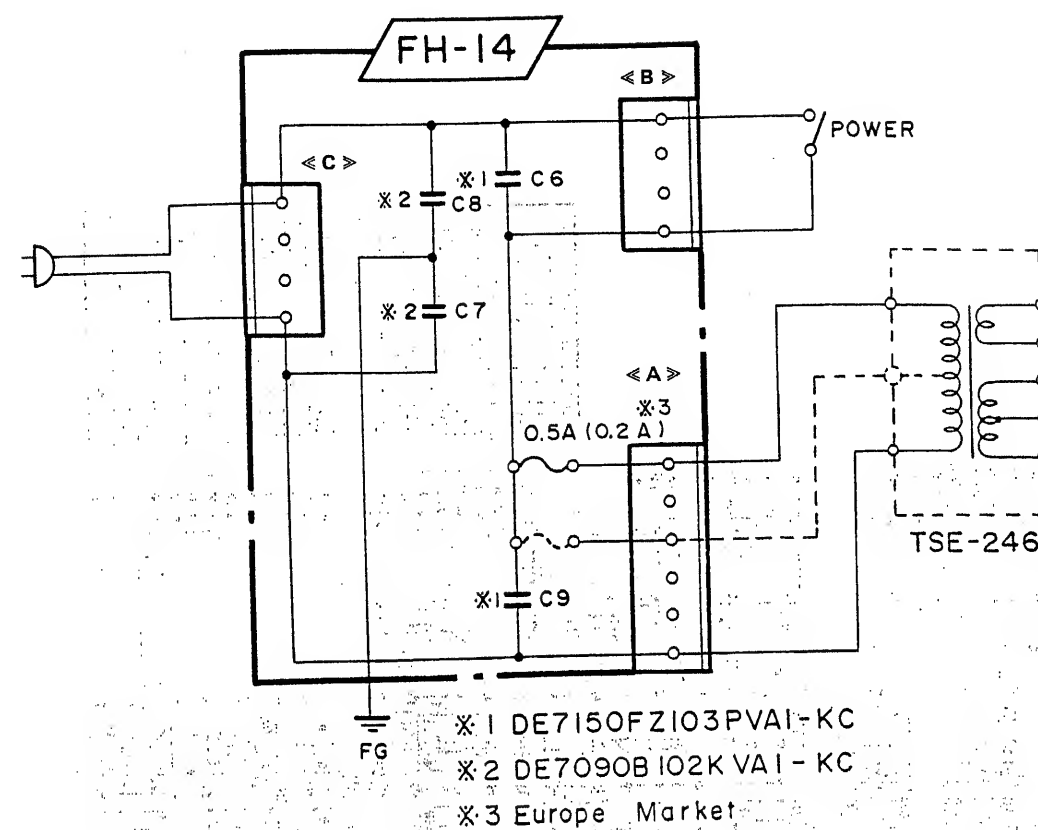
TACT SW  
62T-14

### ■ Polarity of LED (SLP-955C-50, SLP-255F-50U)

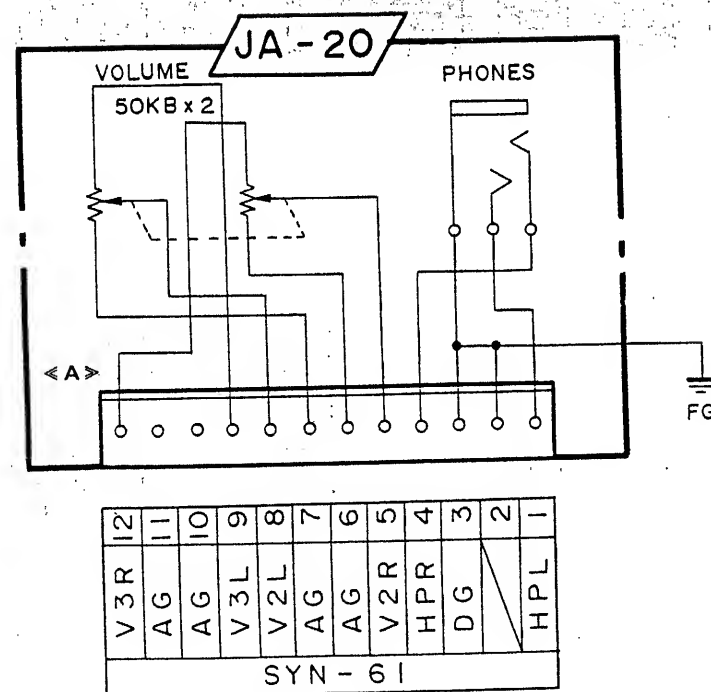


C P U - 1 0 9									
40	LED 0	39	LED 0	38	LED 0	37	LED 1	36	LED 2
35	LED 2	34	LED 3	33	LED 3	32	SA 7	31	SA 6
30	SA 5	29	SA 4	28	SA 3	27	SA 2	26	SA 1
25	SA 0	24	SB 7	23	SB 6	22	SB 5	21	SB 4
20	SB 3	19	SB 2	18	SB 1	17	SB 0	16	PD 7
15	PD 5	14	PD 4	13	PD 3	12	PD 2	11	PD 1
10	PD 0	9	PD 0	8	PA 7	7	PA 6	6	PA 5
5	PA 4	4	PA 3	3	PA 2	2	PA 1	1	PA 0

No.	Name	Code No.
LED1	SL-2283	802941
LED2, 3	SL-1283	802942
D1 ~ 62	1S2473	706317
MIDI	SLF-820B	802945
LED (RED)	SLP-955C-50	802944
LED (GREEN)	SLP-255F-50U	802943

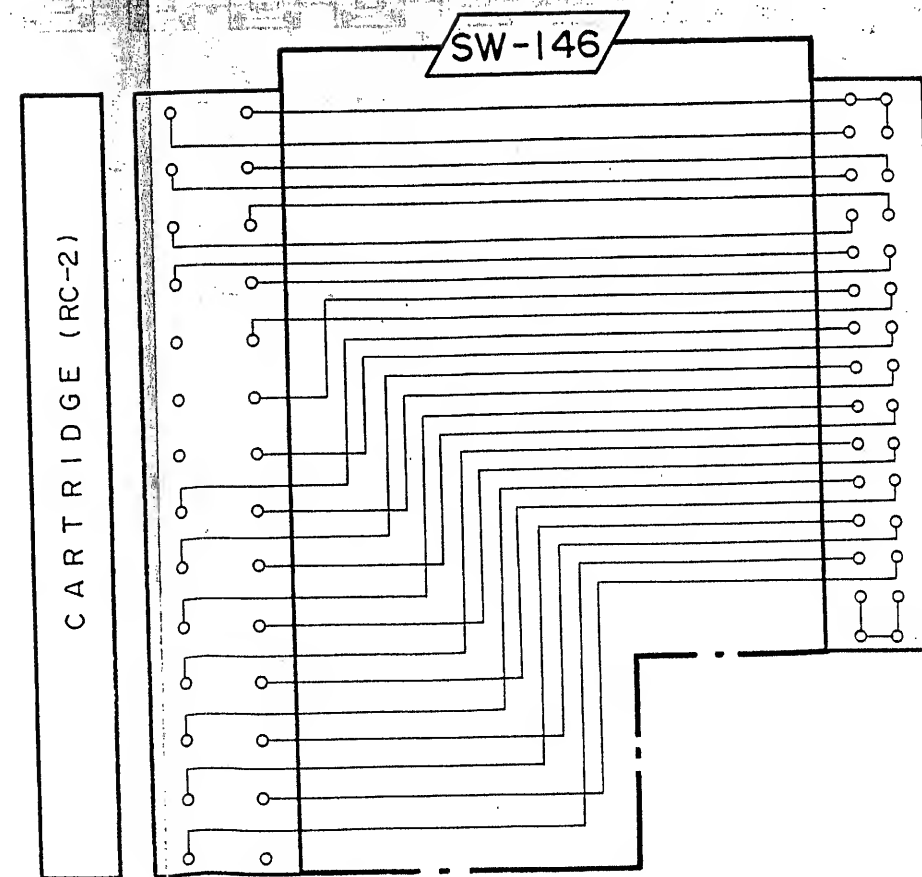


1	DG	SYN-61 CPU-08
2	+5D	
3	+15	
4	AG	
5	-15	



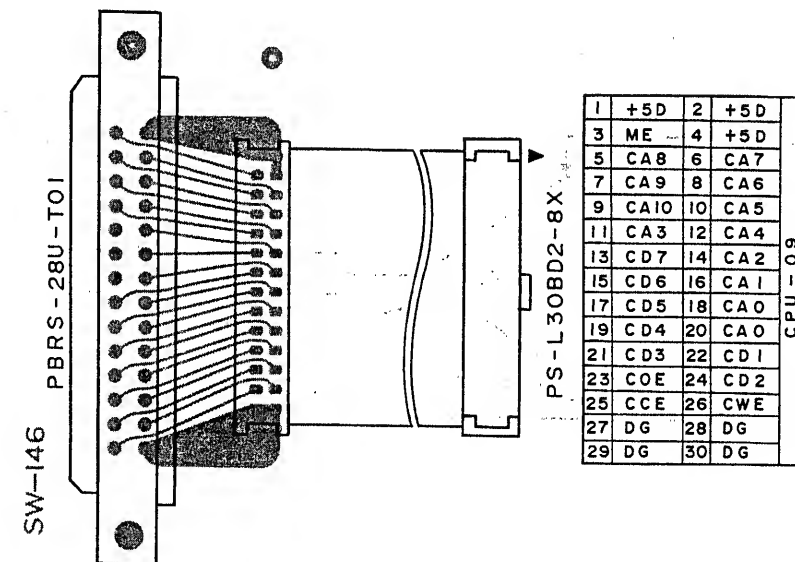
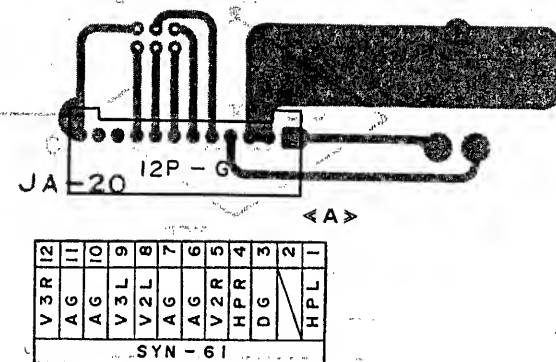
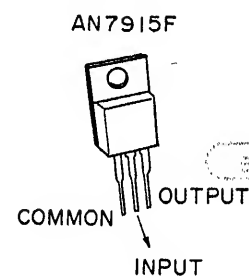
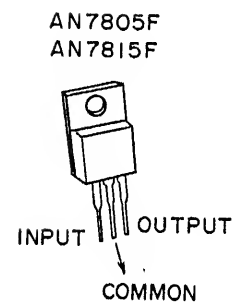
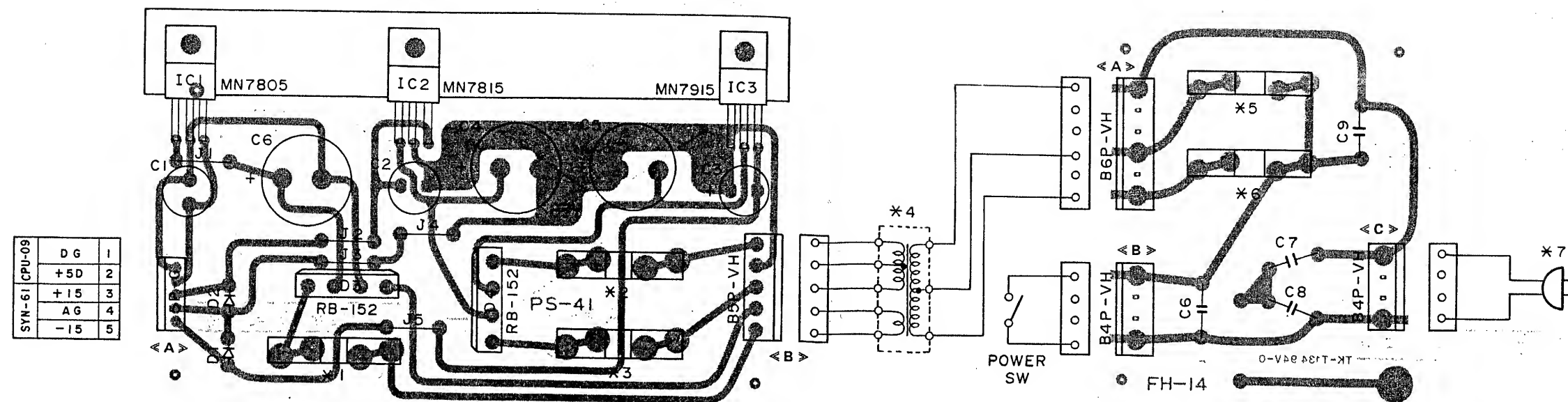
V3R	12	V3L	9	V2L	8	V2R	5	HPR	4	DG	3	HPL	1
AG	11	AG	10	AG	7	AG	6	AG	2				

SYN-61



1	+5D	2	+5D
3	ME	4	+5D
5	CA8	6	CA7
7	CA9	8	CA6
9	CA10	10	CA5
11	CA3	12	CA4
13	CD7	14	CA2
15	CD6	16	CA1
17	CD5	18	CA0
19	CD4	20	CA0
21	CD3	22	CD1
23	COE	24	CD2
25	CCE	26	CWE
27	DG	28	DG
29	DG	30	DG

# 12. [FH-14], [PS-41], [JA-20], [SW-146] PRINTED CIRCUIT BOARD



	Description	Japan	General	U.S.A.	Canada	NE
*1	Fuse	1.0A	1.0A	1.0A-250V	1.0A-250V	T-1.0A
*2	Fuse	0.8A	0.8A	0.8A-250V	0.8A-250V	T-0.8A
*3	Fuse	0.8A	0.8A	0.8A-250V	0.8A-250V	T-0.8A
*4	Power Transformer	TSE-246-D		TSE-246-U		
*5	Fuse	—	0.5A	—	—	T-0.5A
*6	Fuse	0.5A	0.5A	0.5A-250V	0.5A-250V	T-0.5A
*7	AC Cord					
C6~9	Capacitor	DEFZ103PVAI-KC	DE7150FZ103PVAI-KC	DE7150FZ103PVI-KC	DE7150FZ103PVI-KC	DE7150FZ103PVI-KC

## [ IC ]

IC No.	Name	Code No.	Abstract
IC1	AN7805F	802888	Positive Voltage Regulator
IC2	AN7815F	802889	Positive Voltage Regulator
IC3	AN7915F	802890	Negative Voltage Regulator

## [ Diode ]

D1, 2	DSK10B	802898
D3, 4	RB-152	706319

### 13. TROUBLESHOOTING GUIDE

